Smiley Face/Smiley Todd Timber Sales Environmental Assessment Checklist

Plains Unit
Northwest Land Office
Montana Department of Natural Resources and Conservation
March 2022

Smiley Face/Smiley Todd Timber Sales Environmental Assessment

Checklist

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MEMORANDUM

To: Ty Colombo, Management Forester Supervisor

From: David Olsen, Plains Unit Resource Program Manager

Date: September 15, 2021

RE: Smiley Face/Smiley Todd Timber Sales Objectives

Primary Objective

The primary objective of the Smiley Face/Smiley Todd Timber Sales is to generate income for the Common Schools (CS) Trust. The parcels involved in these proposed projects are Sections 30 and 32, T22N, R26W. The projects would provide an estimated 5.5 MMBF of merchantable timber applied toward meeting the FY 2022 and FY 2023 Northwestern Land Office timber sale volume target.

Secondary Objectives

Minimize losses in timber quality and available volume resulting from deteriorating stand conditions in the defined project area as well as the surrounding forested land.

Promote the continued presence and/or reestablishment of historically appropriate timber types on Trust Land included in this project.

Reduce fire hazard and associated risks of loss to the State of Montana and privately-owned land in the area.

Management Directives

In planning and preparing this project, requirements and specified actions as designated in the DNRC HCP shall be addressed, management direction from the State Forest Land Management Plan and Administrative Rules shall be followed, and all applicable Streamside Management Zones rules and regulations will be met. Montana Best Management Practices will be applied in all instances.

Environmental Assessment Checklist

Project Name: Smiley Face/Smiley Todd Timber Sales
Proposed Implementation Date: June 2022
Proponent: Plains Unit, Northwest Land Office, Montana DNRC
County: Sanders

Type and Purpose of Action

Description of Proposed Action:

The Plains Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Smiley Face and Smiley Todd Timber Sales. The project is located approximately 12 air miles north of Plains, MT, on the divide between the Todd Creek, Mudd Creek and Smiley Creek drainages (refer to Attachments vicinity map A-**1** and project map A-**2**) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	**S30 & S32 T22N R26W**	**600**	**551**

Objectives of the project include:

- Generate revenue for the Common Schools.
- Improve forest health by reducing the possibility of insect and disease activity.
- Reduce excessive fuel loading and the related risk of wildfire.
- Promote and reestablish timber types historically found in these areas.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Seed Tree	195
Shelterwood	356
Total Treatment Acres	551
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	75
Site preparation/scarification	350
Proposed Road Activities	# Miles
New permanent road construction	9.8
Road maintenance	**4.3**
Road reconstruction	**0.85**

Duration of Activities:	5 Years
Implementation Period:	2022 – 2027

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- The Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) (DNRC 2010)
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
  - July 29,2019 – October 31, 2019
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Adjacent landowners, statewide scoping list, other interested parties.
  - A notice was also published in the *Clark Fork Valley Press*, the *Sanders County Ledger* and the *Missoulian*
- AGENCIES SCOPED:
  - Montana Fish Wildlife & Parks, Montana tribal organizations, US Forest Service, US Fish & Wildlife Service, State of Montana
- COMMENTS RECEIVED:
  - How many: 5
  - Concerns: Three expressed support, one concerned about noxious weeds, and one would like the Baldy-to-Big Hole pack trail preserved.
  - Results:
    - Harvest units designed to improve forest health, reduce fire danger and generate revenue.
    - Noxious Weeds: All equipment would be washed and inspected before they can move onto the project area. Weeds would be monitored and managed post-harvest.
    - Disturbance to the Baldy-to-Big Hole pack trail would be kept to a minimum; those portions of the trail that may be disturbed would be re-established.

DNRC specialists were consulted, including:

INTERDISCIPLINARY TEAM (ID):

- Project Leader: Tyrell Colombo
- Archeologist: Patrick Rennie
- Wildlife Biologist: Chris Forristal
- Hydrologist: Marc Vessar
- Economist: Sarah Lyngholm
- Silviculturist: Ty Colombo

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at http://dnrc.mt.gov/divisions/trust/forest-management/hcp.

- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.

- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006). As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Under this alternative, no timber would be harvested and therefore no revenue would be generated from the project area for the Common Schools Trust. Forest health would decline while fuel loading would increase thus increasing fire danger. Trust would continue to lose stumpage value within the stand.

Action Alternative: This commercial timber harvest would take place using ground-based and cable yarding methods on 553 acres to remove between 4.0 and 5.5 million board feet of timber, generating revenue for the Common Schools Trust. Forest health would improve by reducing the possibility of insect and disease activity while fuel loading would decrease thus decreasing fire danger. Timber sale design would promote and reestablish timber types historically found in these areas.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
30-1	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	52
30-2	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	56
30-3	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	25
30-4	Moderately warm and dry (westside)	Low-to-mixed	Ponderosa Pine	150-199	Ponderosa Pine	Shelterwood Harvest	12
30-5	Moderately cool and moist (westside)	Mixed	Western Larch	150-199	Ponderosa Pine	Shelterwood Harvest	22
30-6	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	18
30-7	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	53
30-8	Moderately warm and dry (westside)	Low-to-mixed	Douglas-fir	150-199	Ponderosa Pine	Shelterwood Harvest	10

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
32-1	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	27
32-2	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	23
32-3	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	26
32-4	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	16
32-5	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	26
32-6	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	54
32-7	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	28
32-8	Moderately cool and moist (westside)	Mixed	Douglas-fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	17
32-9	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	19
32-10	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Shelterwood Harvest	17
32-11	Warm and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	18
32-12	Moderately warm and dry (westside)	Low-to-mixed	Douglas-fir	150-199	Ponderosa Pine	Seed Tree	15
32-13	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	17

Fire Hazard/Fuels: Fuel loading is increasing due to Douglas-fir beetle causing mortality in Douglas-fir throughout the majority of the project area. Insect infestations have led to an abundance of dead-standing and downed timber that poses hazardous fuels conditions. The current arrangement and volume of ground fuels and dead-standing timber dramatically increases probability of uncharacteristically high fire intensity. The project area is not within the wildland-urban interface.

Insects and Diseases: The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). It has been active in the stand with older dead trees with recent evidence of attacks this last year. There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.

Sensitive/Rare Plants: No plant species of concern identified by the MNHP in the project area.

Noxious Weeds: Spotted knapweed, orange hawkweed, and houndstongue.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Noxious Weeds		**x**				**x**				**x**			**N**	
Rare Plants	**x**				**x**				**x**					
Vegetative community		**x**				**x**				**x**			**N**	
Old Growth	**x**				**x**				**x**					
Action														
Noxious Weeds		**x**				**x**				**x**			**Y**	**V-1**
Rare Plants	**x**				**x**				**x**					
Vegetative community			**x**				**x**			**x**			**Y**	**V-1**
Old Growth	**x**				**x**				**x**					

Comments: V-1; See vegetations mitigations.

Vegetation Mitigations:

- To minimize the potential for the spread of noxious weed, off-road equipment would be cleaned and inspected as required in the timber sale contract to avoid seed migration.
- Tree removal would cause changes in the vegetative structure of the project area. Silvicultural prescriptions have been developed to keep stands moving towards desired future conditions, while maintaining surviving tree growth and vigor. The proposed action alternative would promote the continued development of the desired future cover types.
- If any sensitive plant species are observed within the project area, an equipment restriction zone would be made around the specimen and a plant survey would be completed.
- All harvest areas shall have a minimum of 2 snags and 2 snag-recruits over 21 inches dbh, or the next largest size class available. Additional large-diameter recruitment trees

may be left if sufficient large snags are not present. These snags and recruitment trees may be clumped or evenly distributed throughout the harvest units

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: Existing landtype (soil and vegetation) data were reviewed using the Soil Survey of Sanders and Parts of Lincoln and Flathead Counties (MT651). A total of seven soil were mapped on the state parcel (30E, 30F, 32E, 32F, 35E,37E and 884F). These soil types were identified as have a low to moderate sediment risk and a low landslide potential. The predominant soil texture of these mountain sideslopes and stream breakland soils is gravelly/very gravelly silt loam.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	**X**				**X**					**X**				
Erosion	**X**				**X**					**X**				
Nutrient Cycling	**X**				**X**				**X**					
Slope Stability	**X**				**X**				**X**					
Soil Productivity	**X**				**X**					**X**				
Action														
Physical Disturbance (Compaction and Displacement)		**X**				**X**					**X**		**Y**	**S-1**
Erosion		**X**				**X**				**X**			**Y**	**S-1**
Nutrient Cycling		**X**				**X**				**X**			**Y**	**S-2**
Slope Stability		**X**				**X**				**X**				
Soil Productivity		**X**	**X**			**X**				**X**			**Y**	**S-2**

Comments:

S-1: Physical disturbance from compaction and displacement would be expected on skid trails, skyline corridors and landings. Past monitoring on DNRC timber sales from 1988 to 2010 has shown a range of impacts based upon harvest prescription, harvest method, soil texture and forest vegetation. After reviewing the proposed harvest, DNRC would expect moderate or higher impacts to cover 9.8 to 11.6 percent (54 to 65 acres) of the harvest area. In addition, approximately 29.7 acres would removed from production and converted to roads. Cumulative area removed from timber production and converted to roads is estimated to cover 45 acres (7.5% of project area).

S-2: Coarse and fine woody debris provide a crucial component in forested environments through nutrient cycling, microbial habitat, moisture retention and protection from mineral soil erosion (Harmon et al., 1986). As required in the DNRC Timber Sale Contract, both fine and coarse woody debris would be retained to reduce potential impacts to forest productivity. Although fine woody debris would be left on site for nutrient retention, a reduction in annual fine material contribution would result from this alternative. Maintaining coarse woody debris (>3 inches diameter) at recommended levels would reduce the risk of adverse soil productivity impacts.

Soil Mitigations:

1) Limit equipment operations to periods when soils are relatively dry, (less than 20 percent oven-dried weight), frozen, or snow-covered to in order to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

2) On ground-based units, especially on previously harvested areas, the logger and sale administrator would agree to a skidding plan prior to equipment operations. Skid-trail planning would identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e. trails in draw bottoms) would not be used unless impacts can be adequately mitigated. Regardless of use, these trails may be closed with additional drainage installed, where needed, or grass-seeded to stabilize the site and control erosion.

3) Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion. Based on site review, short, steep slopes may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline, and skidding from more moderate slopes of less than 40 percent. Alternative skidding practices such as tethered-harvest equipment and shovel-logging equipment may operate on slopes steeper than 40 percent, however impacts should be closely monitored to ensure forest soil productivity and water quality is maintained.

4) Keep skid trails to 20 percent or less of the harvest unit acreage by spacing skid trails at least 60 feet apart. Provide for drainage in skid trails and roads concurrently with operations. The ground-based terrain in this project area should facilitate event wider spacing.

5) Slash disposal: Limit the combination of disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 40 percent, unless the operation can be completed without causing excessive erosion. Consider lopping and scattering or jackpot burning on the steeper slopes. Consider disturbance incurred during skidding operations to provide scarification for regeneration.

6) Retain 12 to 20 tons of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods

processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

WATER QUALITY AND QUANTITY:

The potential for cumulative watershed effects for this project is based upon existing stream conditions as well as the proximity and intensity of proposed actions. This includes SMZ/RMZ harvest that could result in reduced levels of recruitable woody debris/stream shading and road construction that could deliver sediment to streams.

Water Quality and Quantity Existing Conditions: The proposed project is located primarily in the Mudd Creek watershed (170102130304) however, a small part of the project area (approximately 96 acres) is in the Weeksville Creek watershed (170102130507). Due to the limited management and lack of stream channels on the DNRC-managed parcel in the Weeksville Creek watershed, no further analysis of this watershed is necessary.

Mudd Creek is a 14,056-acre watershed that averages about 27 inches of precipitation per year. Elevation ranges in the watershed from about 6,420 feet above sea level (asl) in the southwest corner of the watershed to about 3,200 feet asl at the confluence with the Little Thompson River. Ownership is comprised of industrial timberlands (71.5%), USFS (18.8%), and State of Montana-DNRC (9.7%).

Within the state parcel proposed, stream identified on USGS topographic maps were field verified during field reconnaissance in 2010, 2011 and 2020. Many of the streams in section 30 are not considered streams due to a general lack of channel definition; they are ephemeral draws that may have some overland surface flow during snowmelt or heavy rain events. Two fish bearing streams were identified in section 32 of the project area. Both streams exhibited characteristics of stability such as limited bank erosion, stable substrate and adequate woody debris. Fish species present in the project area were identified by electrofishing on included non-native eastern brook trout. Downstream of the DNRC-managed parcels, native westslope cutthroat trout have been observed, although rare.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality	**X**				**X**					**X**				
Water Quantity	**X**				**X**					**X**				
Action														
Water Quality		**X**				**X**				**X**			**Y**	**H-1**
Water Quantity		**X**				**X**				**X**			**Y**	**H-2**

Comments:

H-1: During a review of BMP effectiveness, including stream buffer effectiveness, Raskin et al 2006 found that 95 percent of erosion features (disturbed soil) greater than 10 meters (approximately 33 feet) from the stream did not deliver sediment. His findings indicated

that the main reasons stream buffers are effective include 1) keeping active erosion sites away from the stream, and 2) stream buffers may intercept and filter runoff from upland sites if the runoff is not concentrated in gullies or similar features (Raskin et al 2006).

All Class 1 streams and lakes would have a 50 ft no harvest buffer and an riparian management zone that extends approximately 99 feet from the high water mark. Because BMPs would be implemented during timber-harvesting and road maintenance operations, a low risk of low cumulative impacts to water quality and beneficial uses, would be expected.

H-2: Approximately 455 acres would be harvested using conventional ground-based and skyline yarding methods in the Mudd Creek watershed. This level of harvest would be expected to have a low risk of low impacts to channel conditions due to the no harvest channel buffer, stability of the stream and implementation of Forestry BMPs.

Water Quality & Quantity Mitigations: Follow all applicable Forestry BMPs to minimize the risk of sediment delivery to streams.

FISHERIES:

Fisheries Existing Conditions: A description of the fisheries resources in the 6th code watershed is described above in the *Water Quality and Quantity* section.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Sediment	X				X					X				
Flow Regimes	X				X					X				
Woody Debris	X				X					X				
Stream Shading	X				X					X				
Stream Temperature	X				X					X				
Connectivity	X				X					X				
Populations	X				X						X			
Action														
Sediment		X				X				X			Y	F-1
Flow Regimes		X				X				X			Y	F-2
Woody Debris		X				X				X			Y	F-3
Stream Shading		X				X				X			Y	F-3
Stream Temperature		X				X				X			Y	F-3

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Connectivity	**X**				**X**					**X**				**F-4**
Populations	**X**				**X**						**X**			**F-5**

Comments:

F-1 See *Water Quality and Water Quantity* section above.

F-2 See *Water Quality and Water Quantity* section above.

F-3 No harvest within 50 feet is proposed along fish-bearing water bodies although approximately 1.8 acres of SMZ/RMZ outside of the no-harvest buffer would have up to one-half of the merchantable trees removed. As described in the Montana DNRC Forested Trust Lands Habitat Conservation Plan Final EIS (DNRC 2010), a no-harvest zone of 50 feet immediately adjacent to streams would be expected to retain a level of stream shading similar to pre-harvest conditions. The RMZ buffers proposed under this alternative would maintain all the trees within 50 feet of Class 1 streams and remove a maximum of 50 percent of the merchantable trees in the remaining RMZ width. Therefore, stream shading post-project is expected to maintain a low risk of increasing stream temperatures due to timber harvesting. Additionally, the RMZ would continue to provide recruitable woody debris into the stream for fisheries habitat.

F-4 All crossings of fish-bearing streams proposed for use in this project provide full passage, however other crossing sites within this watershed may be identified as partial barriers. A full review of crossings not on DNRC-managed lands or haul routes was not completed for this project.

F-5 Competition between non-native species and native species indicates an impact to the native species. While the native species continue to be present, the cumulative impact assessment is based upon the risk of hybridization and habitat competition. No changes to populations or species composition would be expected from this proposal.

Fisheries Mitigations: Follow all applicable Forestry BMPs to minimize the risk of sediment delivery to streams.

WILDLIFE:

Wildlife Existing Conditions: The Project Area consists of two DNRC-managed parcels totaling 600 acres (portions of Sections 30 & 32, T22N R6W). These parcels are included in DNRC's Habitat Conservation Plan (*USFWS and DNRC 2010*). The Project Area is primarily comprised of habitat conditions that favor native wildlife species preferring mature forest conditions. Private industrial timberlands with a long history of intensive forest management surround the Project Area. Approximately 1.9 miles of roads are present within the Project Area, and all but 0.1 miles are restricted from public motorized use. Some unauthorized motorized use

of the Project Area is occurring where unrestricted roads intersect DNRC property lines. Restricted roads receive occasional motorized use for resource and fire-management purposes. Approximately 1.1 miles of a maintain hiking/horse-packing trail is present within the south portion of the Project Area (section 32). Public non-motorized use is likely low except during the big game hunting season when it elevates slightly. The Project Area contains 591 acres of mature forest stands (trees ≥9" dbh with ≥40% canopy closure), though none are old-growth forest using Green et al. (*1992*) standards. Insects and disease are prevalent and active within these forested stands; reducing live trees and canopy closure. Some stands are dropping out of the mature forest classification due to loss of canopy closure. Approximately 9 acres are comprised of stands with mature trees and a more open (<40%) canopy. Overall, conditions within the Project Area favor wildlife species using habitat with larger trees and more dense forest, however forest health issues are quickly changing these habitat attributes in some areas.

No-Action Alternative: None of the proposed activities would occur. In the short-term, forest insects and disease will likely continue to kill mature trees and reduce canopy cover in the Project Area. An increase in stand-replacement wildfire risk would be anticipated. In the long-term, habitat suitability for mature forest-associated species would decrease compared to current conditions as more live trees die. However, wildlife species that utilize snags and dead wood for their life history would experience increases in habitat quality.

Action Alternative (see Wildlife table below):

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear *(Ursus arctos)* Habitat: Recovery areas, security from human activity	**X**				**X**				**X**				**Y**	**WI-1**
Canada lynx (*Felix lynx)* Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone			**X**				**X**			**X**			**Y**	**WI-2**
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	**X**				**X**				**X**					**WI-3**
Black-backed woodpecker *(Picoides arcticus)*	**X**				**X**				**X**					**WI-3**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Mature to old burned or beetle-infested forest														
Coeur d'Alene salamander *(Plethodon idahoensis)* Habitat: Waterfall spray zones, talus near cascading streams	**X**				**X**				**X**					**WI-3**
Columbian sharp-tailed grouse *(Tympanuchus Phasianellus columbianus)* Habitat: Grassland, shrubland, riparian, agriculture	**X**				**X**				**X**					**WI-3**
Common loon *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation	**X**				**X**				**X**					**WI-3**
Fisher *(Pekania pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian			**X**				**X**			**X**			**Y**	**WI-4**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest		**X**				**X**				**X**				**WI-5**
Harlequin duck *(Histrionicus histrionicus)* Habitat: White-water streams, boulder and cobble substrates	**X**					**X**			**X**					**WI-3**
Northern bog lemming *(Synaptomys borealis)*	**X**				**X**				**X**					**WI-3**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Sphagnum meadows, bogs, fens with thick moss mats														
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**					**WI-3**
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest				**X**				**X**			**X**		**Y**	**WI-6**
Townsend's big-eared bat *(Plecotus townsendii)* Habitat: Caves, caverns, old mines	**X**				**X**				**X**					**WI-3**
Wolverine *(Gulo gulo)* Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring	**X**				**X**				**X**					**WI-3**
Big Game Species														
Elk			**X**				**X**			**X**				**WI-7**
Whitetail				**X**				**X**		**X**				**WI-7**
Mule Deer		**X**				**X**				**X**				**WI-7**
Other														
Mature Forest				**X**				**X**			**X**			**WI-8**

Comments:

WI-1. Grizzly Bear – The project area is not within non-recovery occupied habitat or a recovery zone (*Wittinger 2002*). Nearby recovery zone habitat is associated with the Cabinet-Yaak Ecosystem (CYE), which contains very low densities of grizzly bears (*Kasworm et al. 2020*). While the occasional presence of a grizzly bear in the parcel is possible, especially given documentation of a grizzly bear within the nearest recovery zone BMU within the last 7 years, appreciable use by grizzly bears would not be expected due to the absence of preferred habitat, surrounding unsuitable habitat with high road densities, and distance from high-density grizzly bear area. As grizzly bears continue to expand their range outside of recovery zones, bears

could occasionally travel through the parcel during their long-range movements, but appreciable changes to potential movement patterns would not be anticipated.

WI-2. Canada Lynx – Approximately 496 acres of suitable lynx habitat (91.5% of existing suitable habitat in the Project Area) would be altered by the proposed Action Alternative. Of these acres, 336 acres would be treated with harvest prescriptions that would not retain enough conifer cover to continue providing suitable lynx habitat immediately post-harvest. The remaining 160 acres (29.5% of the Project Area) would receive treatments that would reduce some suitable habitat attributes but would overall continue to provide suitable lynx habitat. Overall, a total of 207 acres (38%) of suitable lynx habitat would persist within the Project Area. To ensure that forest structural attributes preferred by lynx and lynx prey (snowshoe hares) remain following harvest, some patches of advanced regeneration and shade-tolerant trees would be retained within portions of suitable lynx habitat. Additionally, 12 to 20 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (*ARM 36.11.414*) and retention of downed logs ≥15 inch diameter would be emphasized. Lynx connectivity corridors would be maintained through the Project Area along riparian areas. Overall, lynx habitat connectivity within the Project Area would be further reduced; however, existing lynx habitat connectivity is poor due to interspersed unsuitable habitat types. Suitable lynx habitat would remain in 38.0% of the Project Area, with most of this habitat in connected patches. Suitable habitat in riparian areas would remain connected to potentially suitable habitat in the surrounding 36,335-acre large cumulative effects analysis area (large CEAA). Any lynx that might be using the area could temporarily be displaced from the Project Area for up to four years by the proposed activities, however appreciable use of the area under current existing conditions would not be expected due to surrounding unsuitable habitat/forest types, lack of lynx observations within the last 40 years (*MNHP 2021*), and relatively low snow loads compared to preferred habitat on USFS lands in higher elevations to the west. Disturbance/displacement and habitat alteration by the proposed DNRC activities would be additive to recent wildfire or recent/ongoing forest management projects on private or USFS lands within the larger CEAA.

WI-3. This species was evaluated and it was determined that the Project Area lies outside of the normal distribution for the species, and/or suitable habitat was not found to be present.

WI-4. Fisher – Approximately 408 acres of suitable fisher habitat and another 34 acres of preferred covertypes would be affected by the proposed activities (96.8% of fisher habitat available in the Project Area). Of the suitable habitat acres, 407 acres would not be suitable for fishers post-harvest due to low amounts of mature conifer cover. Intermediate harvest treatments on 1 acres of suitable fisher habitat would reduce live tree densities but retain adequate crown closure for potential use by fishers. Approximately 34 acres of preferred covertypes, which do not currently contain adequate forest structure for fishers, would undergo a reduction in mature trees that would increase the time until those acres grow into suitable habitat. To reduce some adverse effects on fishers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). These snags are important habitat features that provide resting and denning sites for fishers. Connectivity of suitable habitat across the Project Area would be maintained in two riparian areas. Overall connectivity would be reduced to a moderate degree across the Project Area, although it is also currently limited by interspersed unsuitable covertypes and low availability of suitable habitat on adjacent private lands. Overall, given the lack of fisher observations (*MNHP 2021, Krohner 2020, Coltrane and Inman 2021*) and prevalence of unsuitable forest types, which are avoided by fishers (*Olson et al. 2014*), the likelihood of fishers using the Project Area is low. Should any fishers be present within the large CEAA, habitat alteration and potential disturbance would be

additive to any activities occurring or planned on surrounding private and USFS lands. However, considering the small amount of harvest at the scale of the large CEAA, and complete absence of fisher observations within the last 25 years (*MNHP 2021, Krohner 2020, Coltrane and Inman 2021*), low effects to fishers in the large CEAA would be expected.

WI-5. Flammulated Owls – The proposed timber harvest would affect approximately 55 acres (96.0% of habitat in the Project Area) of preferred flammulated owl cover types. The majority of these acres are currently too densely forested to be considered suitable for flammulated owl use. Approximately 18 acres of flammulated owl cover types would likely be made temporarily unsuitable by proposed seed tree treatments that retain 5-10 mature trees per acre and reduce canopy closure to under 10%. Shelterwood treatments on 37 acres would likely increase habitat suitability for flammulated owls by creating more open forest structure. Preservation of large snags and patches of submerchantable trees (if available) in harvest units could conserve forest structure and increase habitat suitability; favoring use by flammulated owls. All treatments would reduce tree density within the stand and would favor seral species, which would create more open forest stand conditions potentially beneficial to flammulated owls in the long term. To retain potential nesting trees for flammulated owls, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). If harvesting occurred during the summer or fall period, flammulated owls could temporarily displaced by the proposed activities. Within the 7,748-acre small cumulative effects analysis area (hereafter small CEAA), 330 acres of forest stands appear to be potentially suitable for flammulated owls, however, snags available for nesting are likely limited due to differing snag conservation philosophies on surrounding private ownerships.

WI-6. Pileated Woodpecker – The proposed activities would affect 462 acres of suitable pileated woodpecker habitat (90.5% of habitat available in the Project Area). All of these 462 acres would be treated with harvest prescriptions causing these stands to become unsuitable for breeding pileated woodpeckers post-harvest. Approximately 323 acres of shelterwood harvesting would retain 15-30 mature trees per acre and could remain marginally suitable for foraging pileated woodpeckers post-harvest, although fewer large trees and snags would be available for nesting. Approximately 48 acres of higher-quality suitable pileated woodpecker habitat would remain post-harvest. To decrease potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*). Additionally, 12 to 20 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (*ARM 36.11.414*) and retention of downed logs ≥15 inch diameter would be emphasized. Although the Project Area by itself would not likely continue to support breeding pileated woodpeckers, it is probable that pileated woodpeckers do not exclusively use the Project Area due to its irregular shape. Habitat availability within the small CEAA is limited due to past timber harvesting on surrounding private lands, however over 966 acres would remain as potentially suitable habitat. Habitat alterations due to the proposed action would be additive to recent wildfire and forest management projects on adjacent private lands within the small CEAA. Overall, continued use of the Project Area and small CEAA by pileated woodpeckers would be anticipated.

WI-7. Big Game – The proposed activities would reduce thermal cover on potential white-tailed deer winter range (*DFWP 2008*). The proposed harvest would affect 543 acres of thermal cover (90.5% of thermal cover available in the Project Area). All of these acres would be treated with harvest prescriptions that would remove canopy cover to the extent that they would not provide appreciable thermal cover/snow intercept during typical winter conditions. Thermal cover/snow intercept would remain on 49 acres within the Project Area. Approximately 551 acres (91.9% of

the Project Area) of big game hiding cover would be altered by harvesting. Of the 600 acres of hiding cover in the Project Area, harvesting would remove 373 acres (62.2%) and reduce cover quality on another 178 acres. Approximately 227 acres (37.8% of the Project Area) of vegetative hiding cover would remain postharvest. Broken topography and retention of regenerating tree patches would reduce sight distances in much of the Project Area. No new open roads would be built. New restricted roads would be built totaling 9.8 miles; these roads would be restricted from public motorized use during and after the conclusion of activities. An increase in the number of roads and decrease in the amount of hiding cover under the Action Alternative will increase the risk of hunting mortality to big game species within the Project Area. Impacts to hiding cover and thermal cover/snow intercept under the Action Alternative would be additive to recent wildfire and any ongoing vegetation management projects on private or USDA Forest Service (USFS) lands within the larger surrounding area. Hiding cover would remain relatively abundant within the large CEAA, however high-quality thermal cover/snow intercept would continue to be limited (24.8% of the CEAA) on big game winter range due to past wildfires and timber management on DNRC and private lands. Overall, measurable big game population changes at the scale of the large CEAA would not be expected as a result of the action alternative.

WI-8. Mature Forest – The proposed action would harvest approximately 543 acres of mature forest (91.8% of mature forest within the Project Area) with a reasonably closed canopy (≥40% canopy closure). Harvest prescriptions on all 543 acres would reduce live tree densities and bring overstory canopy cover below 30%. Thus, these stands would no longer be suitable for wildlife species preferring dense forest with more shaded canopies. At the same time, habitat suitability for species utilizing younger stands and open forest with widely scattered mature trees would increase. Many mature stands in the Project Area have high prevalence of insects and disease; some of these stands are expected to fall out of mature forest status (≥40% canopy cover) due to active tree mortality within the next 10 years. Approximately 49 acres (8.1% of the Project Area) of mature forest would remain in the Project Area. Connectivity of mature forest would be reduced, as larger patches in the Project Area would be fragmented by harvesting. Retained patches of mature forest within the Project Area would remain connected with other mature stands outside of DNRC lands within the small CEAA, although this type of habitat is not abundant within the CEAA. Forest management projects and wildfire on neighboring private timberlands have removed most mature forest and continue to alter mature forest stands within the small CEAA; the proposed action would be additive to these changes at the broader spatial scale. Mature forest abundance would remain relatively low (<15%) and connectivity scattered in smaller patches through much of the small CEAA.

Wildlife Mitigations:

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per *ARM 36.11.444(2)*.
- Effectively close restricted roads, new roads and skid trials in the Project Area via a combination of gates, kelly humps, rocks, and stumps. Maintain public motorized restrictions on restricted and temporary roads during and after harvest activities.
- New roads should be kept away from DNRC property borders (where practicable) to discourage illegal motorized use from nearby unrestricted roads/lands.

- Within commercial harvest units, retain patches of advanced regeneration of shade-tolerant trees as per *LY-HB4* (*USFWS and DNRC 2010*).
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next available size class, particularly favoring ponderosa pine, western larch and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 12-20 tons/acre of coarse-woody debris and emphasize retention of 15-inch diameter downed logs, aiming for at least one 20-foot-long section per acre.

Literature:

DFWP. 2008. Maps of moose, elk, mule deer, and white-tailed deer distribution in Montana. *In* Individual GIS data layers. Available online at: https://gis-mtfwp.opendata.arcgis.com/

Coltrane, J. and Inman, R. 2021. Fisher occupancy twenty-five years after translocation in the Rocky Mountains of Montana. Northwestern Naturalist 102(1): 43-54.

Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old Growth Forest Types of the Northern Region. R-1 SES. USDA Forest Service, Northern Region, Missoula MT 60pp.

Kasworm, W. F., T. G. Radandt, J. E. Teisberg, T. Vent, A. Welander, M. Proctor, H. Cooley and J. Fortin-Noreus. 2020. Cabinet-Yaak grizzly bear recovery area 2019 research and monitoring progress report. U.S. Fish and Wildlife Service, Missoula, Montana. 105 pp.

Krohner, J. M. 2020. Finding fishers: determining the distribution of a rare forest mesocarnivore in the Northern Rocky Mountains. M.S. Thesis, University of Montana, Missoula, MT. 81 pp.

MNHP. 2021. Natural Heritage Map Viewer. Montana Natural Heritage Program. Retrieved on August 20, 2021, from http://mtnhp.org/MapViewer.

Olson, L. E., J. D. Sauder, N. M. Albrecht, R. S. Vinkey, S. A. Cushman, and M. K. Schwartz. 2014. Modeling the effects of dispersal and patch size on predicted fisher (*Pekania [Martes] pennanti*) distribution in the U.S. Rocky Mountains. Biological Conservation 169:89-98.

USFWS and DNRC. 2010. Montana Department of Natural Resources and Conservation Forested Trust Lands Habitat Conservation Plan, Final Environmental Impact Statement, Volumes I and II., U.S. Department of Interior, Fish and Wildlife Service, Region 6, Denver, Colorado and Montana Department of Natural Resources and Conservation, Missoula, MT.

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	**x**				**x**				**x**					
Dust	**x**				**x**				**x**					
Action														
Smoke		**x**				**x**				**x**			**Y**	**AQ-1**
Dust		**x**				**x**				**x**			**Y**	**AQ-2**

Comments:

AQ-1 The proposed project is located in Montana State Airshed 2 as designated by the Montana/Idaho Airshed Group. Particulate matter may be introduced into the Airshed from the burning of logging slash. All burning would be conducted following the rules, regulations, and procedures of the DNRC major open burning permit and the Montana/Idaho Airshed Group operations guide.

Impacts are expected to be minor and temporary as all slash burning would be conducted burning on days with good to excellent dispersion when smoke would not be expected to impair visibility. Therefore, direct, indirect, and cumulative effects to air quality are expected to be minimal.

AQ-2 Under the action alternative, truck traffic would produce more dust than the no action alternative.

Air Quality Mitigations:

- Only burn on days approved by the Montana/Idaho Airshed group and DEQ.
- Keep truck speeds down to reduce road dust.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	**x**				**x**				**x**					
Aesthetics	**x**				**x**				**X**					
Demands on Environmental Resources of Land, Water, or Energy	**x**				**x**				**x**					
Action														
Historical or Archaeological Sites	**x**				**x**				**x**				**Y**	**H-1**
Aesthetics		**x**				**x**				**x**			**N**	**A-1**
Demands on Environmental Resources of Land, Water, or Energy	**x**				**x**				**x**					

Comments:

A-1 The harvest units would be visible from the adjoining properties.

Mitigations:

H-1 The DNRC archeologist was contacted and there are no cultural resources identified with in the project area. If culture resources are found, operation would be stopped and the DNRC archeologist would be notified.

A-1 The harvest units are surrounded by heavily managed private industry timberlands. The harvest units would mimic the surrounding landscape with the exception that the State Lands would retain some standing timber in the form of seed trees and varied retention of size class and distribution.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

- Mudd Creek Timber Sale (2007)
- Upper Lynch M'Toe EA (2013)
- Jones Berger EA (2015)
- Copper King Fire Salvage (2016)
- Lynch Creek Gorge EA (2020)

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	**X**				**X**				**X**					
Industrial, Commercial and Agricultural Activities and Production	**X**				**X**				**X**					
Quantity and Distribution of Employment	**X**				**X**				**X**					
Local Tax Base and Tax Revenues	**X**				**X**				**X**					
Demand for Government Services	**X**				**X**				**X**					
Access To and Quality of	**X**				**X**				**X**					

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Recreational and Wilderness Activities														
Density and Distribution of population and housing	**X**				**X**				**X**					
Social Structures and Mores	**X**				**X**				**X**					
Cultural Uniqueness and Diversity	**X**				**X**				**X**					
Action														
Health and Human Safety	**X**				**X**				**X**					
Industrial, Commercial and Agricultural Activities and Production	**X**				**X**				**X**					
Quantity and Distribution of Employment		**X**				**X**				**X**			**No**	**HP-1**
Local Tax Base and Tax Revenues	**X**				**X**				**X**					
Demand for Government Services	**X**				**X**				**X**					
Access To and Quality of Recreational and Wilderness Activities	**X**				**X**				**X**					
Density and Distribution of population and housing	**X**				**X**				**X**					
Social Structures and Mores	**X**				**X**				**X**					
Cultural Uniqueness and Diversity	**X**				**X**				**X**					

Comments:

HP-1 According to the Montana Bureau of Business and Economic Research a general rule of thumb is that for every million board feet of sawtimber harvested in Montana, ten person years of employment occur in the forest products industry. This harvest is viewed as a continuation of a sustained yield and as such would not create any new jobs but rather sustain approximately 8 person years of employment in the forest products industry. A few short-term jobs would also be created/sustained by issuing contracts following harvest. Additionally, local businesses, such as hotels, grocery stores, and gas stations would likely receive additional revenues from personnel working on the proposed

project. This would be a positive low impact to quantity and distribution of employment in the area.

Locally Adopted Environmental Plans and Goals:

- None

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time.

Action: The timber harvest would generate additional revenue for the Common Schools Trust. The estimated return to the trust for the proposed harvest is $414,000 based on an estimated harvest of 3.5 million board feet (23,000 tons) and an overall stumpage value of $18.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No

Environmental Assessment Checklist Prepared By:

Name: Ty Colombo
Title: Forest Management Supervisor
Date: March 24, 2022

Finding

Alternative Selected
The Alternative Action is selected to be implemented.

Significance of Potential Impacts
No significant impacts have been identified.

Need for Further Environmental Analysis

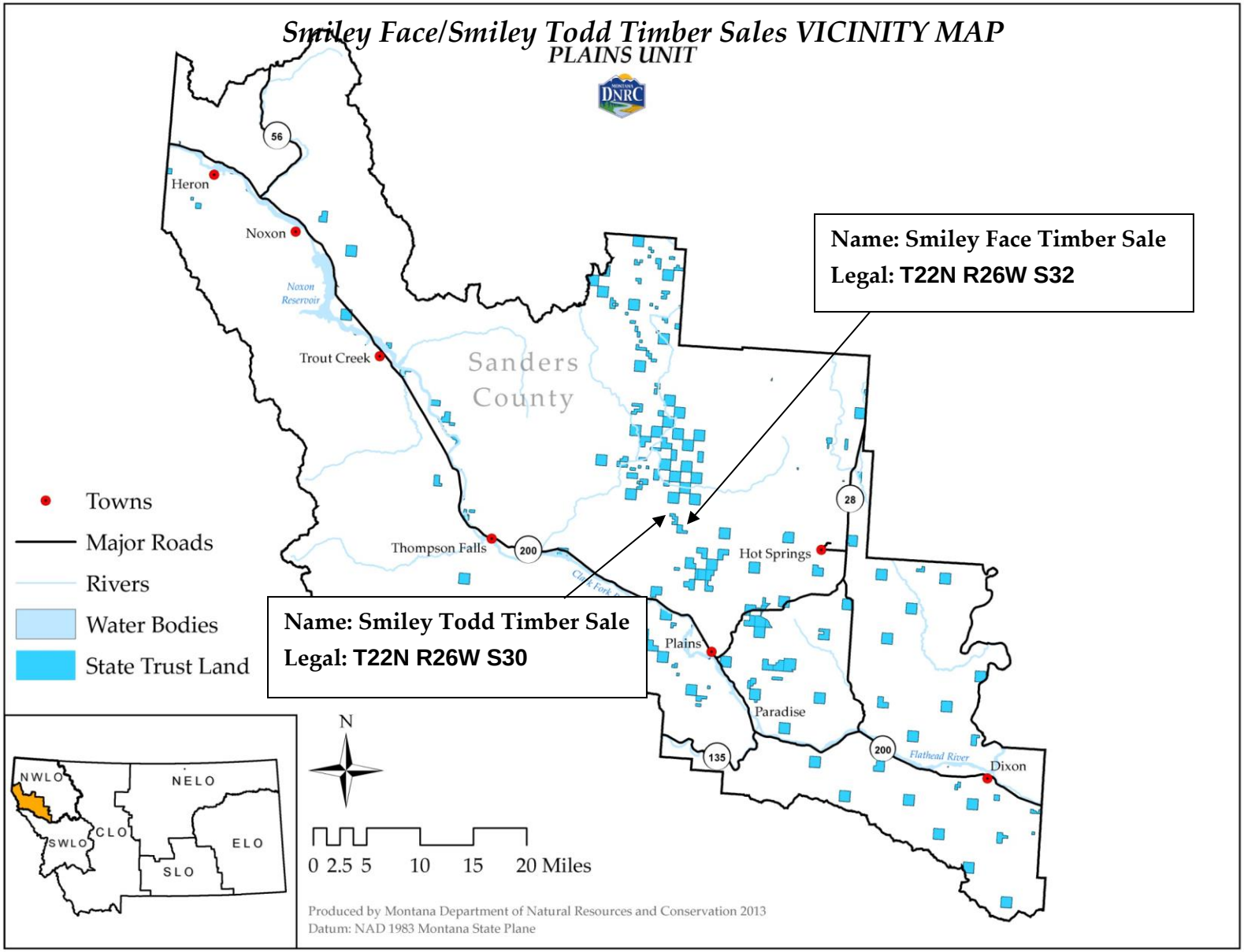
☐	EIS	☐	More Detailed EA	X	No Further Analysis

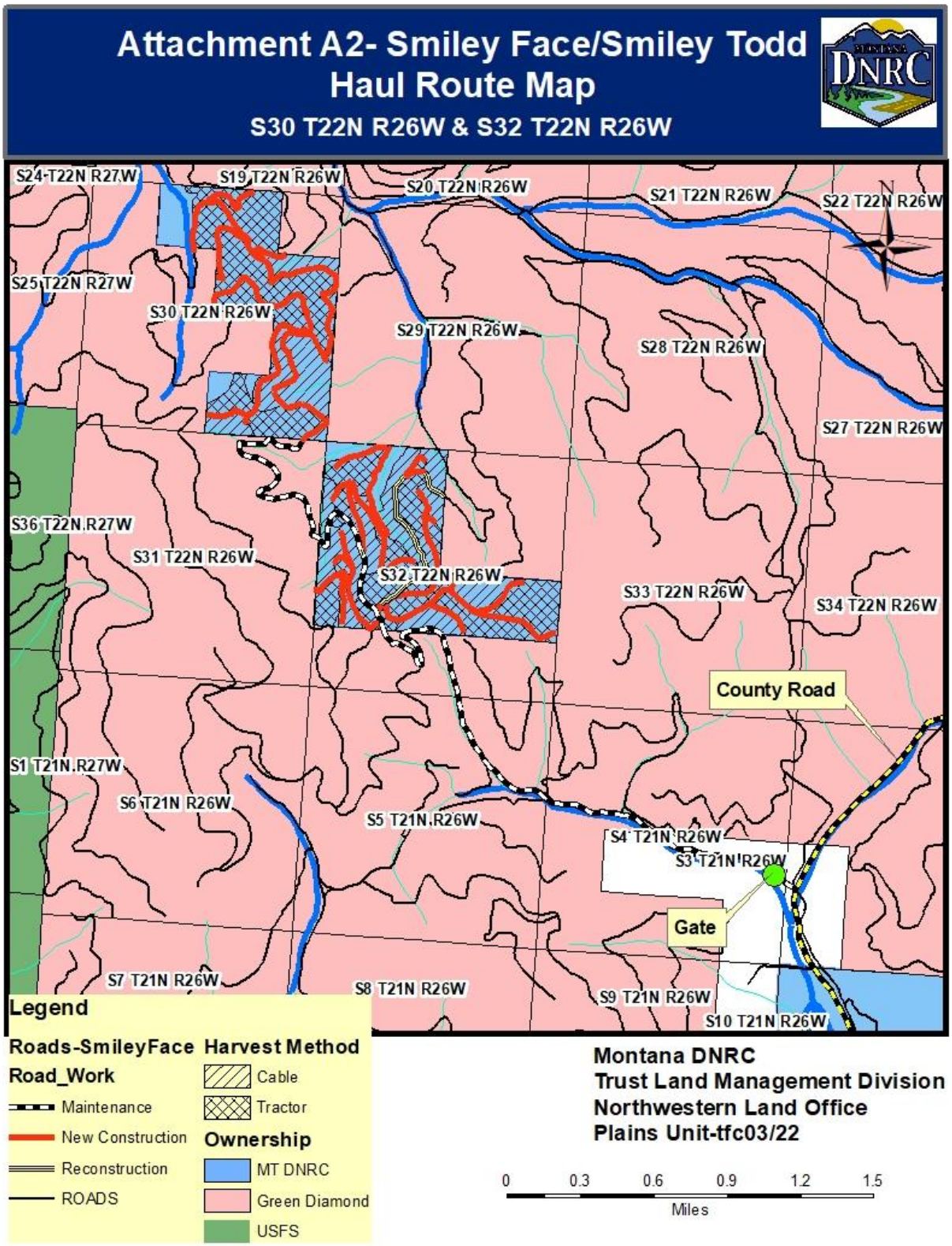
Environmental Assessment Checklist Approved By:

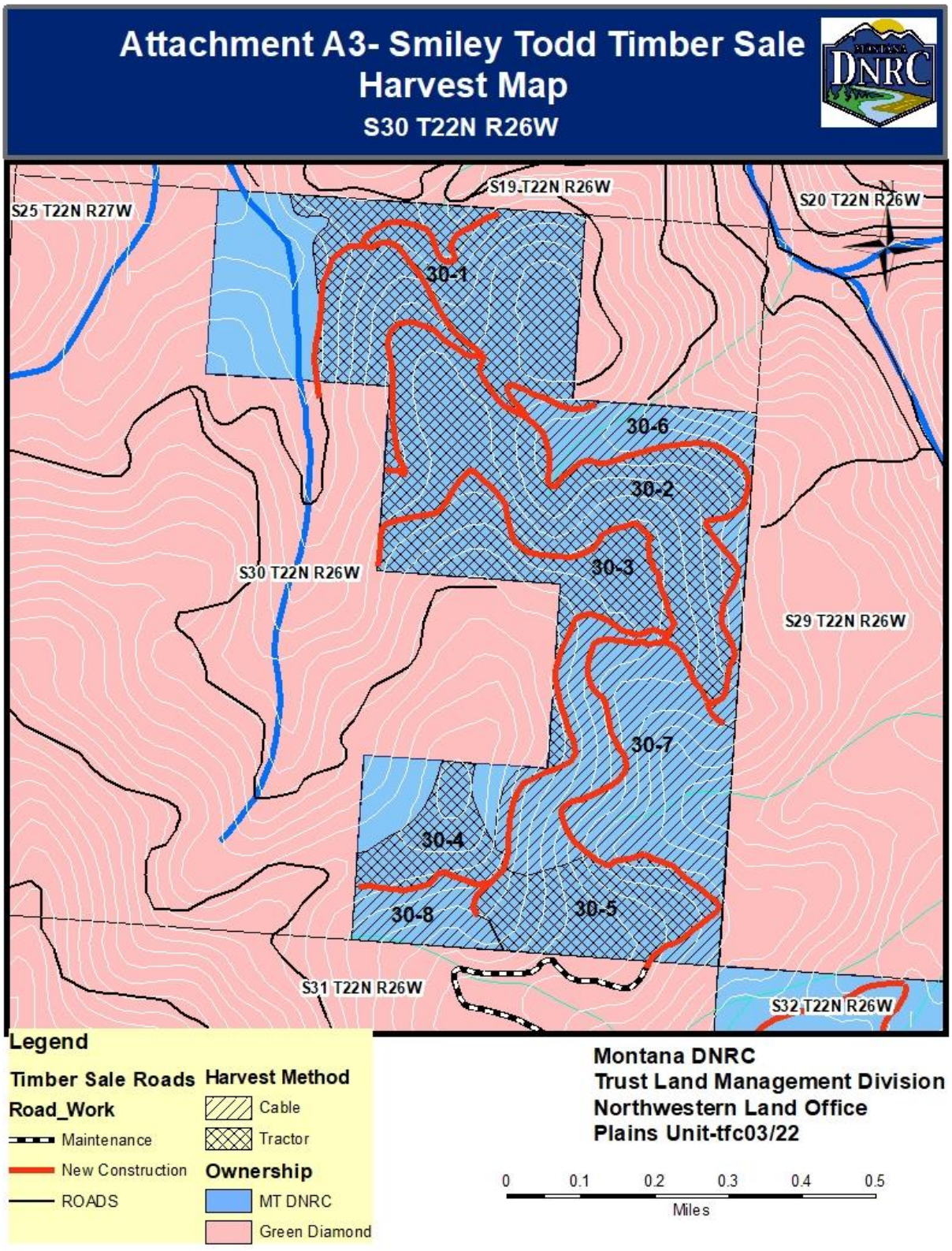
Name: David M. Olsen
Title: Program Manager
Date: April 8, 2022
Signature: /s/ *David M. Olsen*

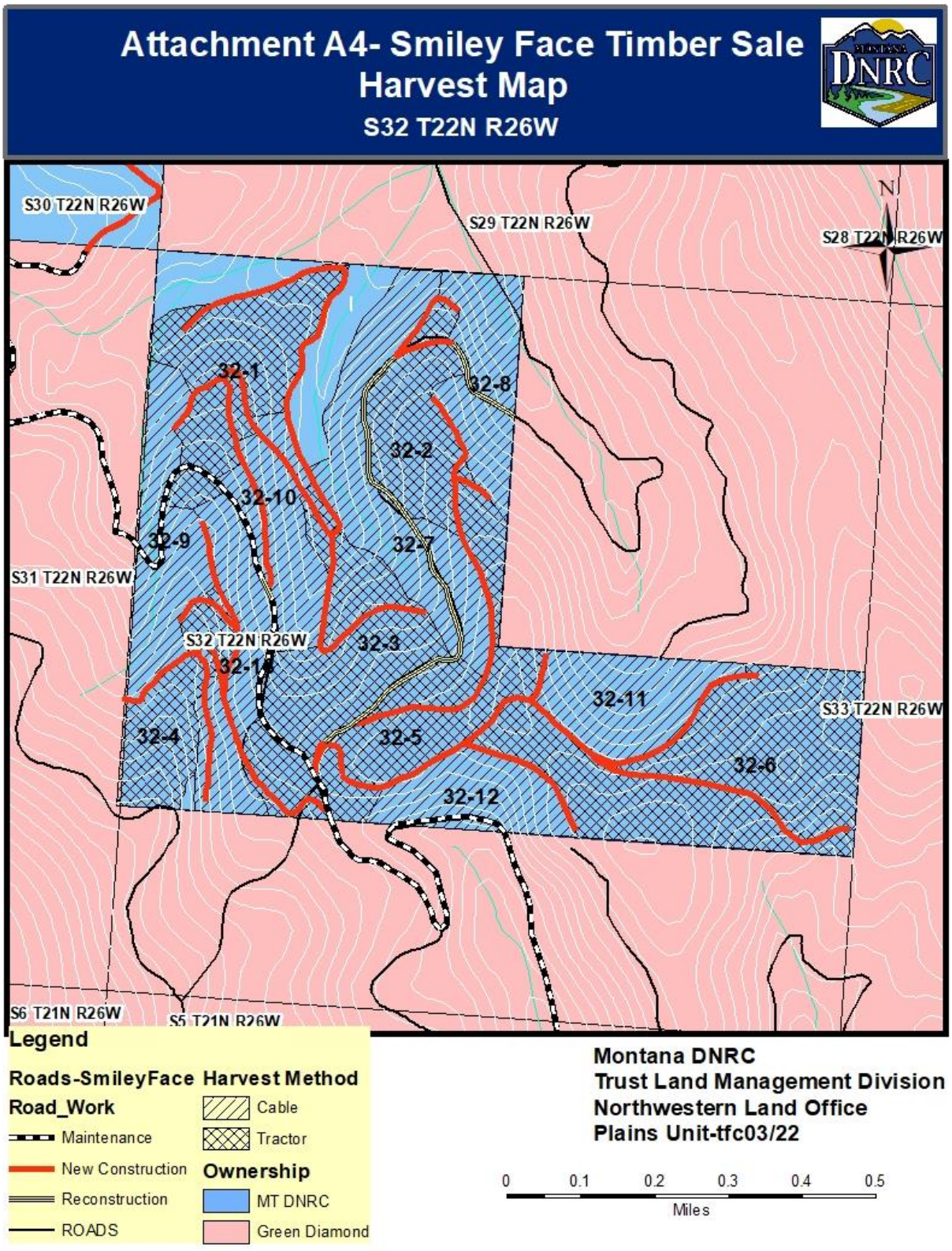
Attachment A- Maps

A-1: Timber Sale Vicinity Map




Attachment A2- Smiley Face/Smiley Todd Haul Route Map
S30 T22N R26W & S32 T22N R26W
DNRC
S24 T22N R27W
S19 T22N R26W
S20 T22N R26W
S21 T22N R26W
S22 T22N R26W
S25 T22N R27W
S30 T22N R26W
S29 T22N R26W
S28 T22N R26W
S27 T22N R26W
S36 T22N R27W
S31 T22N R26W
S32 T22N R26W
S33 T22N R26W
S34 T22N R26W
County Road
S1 T21N R27W
S6 T21N R26W
S5 T21N R26W
S4 T21N R26W
S3 T21N R26W
Gate
S7 T21N R26W
S8 T21N R26W
S9 T21N R26W
S10 T21N R26W
N
Legend
Roads-SmileyFace
Road_Work
Maintenance
New Construction
Reconstruction
ROADS
Harvest Method
Cable
Tractor
Ownership
MT DNRC
Green Diamond
USFS
Montana DNRC
Trust Land Management Division
Northwestern Land Office
Plains Unit-tfc03/22
0 0.3 0.6 0.9 1.2 1.5
Miles


Attachment A3- Smiley Todd Timber Sale
Harvest Map
S30 T22N R26W
DNRC
S19 T22N R26W
S20 T22N R26W
S25 T22N R27W
30-1
30-6
30-2
30-3
S30 T22N R26W
S29 T22N R26W
30-7
30-4
30-8
30-5
S31 T22N R26W
S32 T22N R26W
Legend
Timber Sale Roads
Road_Work
Maintenance
New Construction
ROADS
Harvest Method
Cable
Tractor
Ownership
MT DNRC
Green Diamond
Montana DNRC
Trust Land Management Division
Northwestern Land Office
Plains Unit-tfc03/22
0 0.1 0.2 0.3 0.4 0.5
Miles


Attachment A4- Smiley Face Timber Sale
Harvest Map
S32 T22N R26W
DNRC
S30 T22N R26W
S29 T22N R26W
S28 T22N R26W
N
32-1
32-8
32-2
32-10
32-9
32-7
S31 T22N R26W
S32 T22N R26W
32-3
32-11
S33 T22N R26W
32-4
32-5
32-6
32-12
S6 T21N R26W
S5 T21N R26W
Legend
Roads-SmileyFace
Road_Work
Maintenance
New Construction
Reconstruction
ROADS
Harvest Method
Cable
Tractor
Ownership
MT DNRC
Green Diamond
Montana DNRC
Trust Land Management Division
Northwestern Land Office
Plains Unit-tfc03/22
0 0.1 0.2 0.3 0.4 0.5
Miles

Attachment B- Prescriptions

SMILEY FACE/SMILEY TODD ENVIROMENTAL ASSESSMENT
STAND PRESCRIPTIONS

Name: Smiley Todd Timber Sale **Date: June 2022**

Unit Numbers: 30-1, 30-2, 30-3 **Location:** T22N R26W S30 **Acres:** 133

Elevation: 3920ft – 4280ft **Slope:** 15%-35% **Aspects:** W-N-E

Habitat type: ABGR/LIBO-XETE, ABGR/LIBO-LIBO, ABGR/XETE

Soils:
Mitten Gravelly Ashy Silt Loam……76%
Tevis Gravelly Loam……..13%
Courville Gravelly Ashy Silt Loam……11%

Description of stand(s):

- Mostly Douglas-fir with western larch, ponderosa pine, grand fir, and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 75 feet in height, 12 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected western larch (*A. larcis*).
- Douglas-fir dominates the understory and is medium to well stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- Units 30-1 and 30-2 would be treated with a seed tree prescription leaving 5-10 tpa. Unit 30-3 would be treated with a modified shelterwood prescription leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be ground based harvested with conventional, mechanical, or cut-to-length operations on dry, frozen or snow-covered ground.
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Numbers: 30-4, 30-5 **Location:** T22N R26W S30 **Acres:** 34

Elevation: 4040ft - 4480ft **Slope:** 15%-35% **Aspect(s):** E-S-SE

Habitat type: ABGR/LIBO-XETE, PSME/SYAL-CARU

Soils:

Mitten Gravelly Ashy Silt Loam……55%
Tevis Gravelly Loam……..34%
Courville Gravelly Ashy Silt Loam……11%

Description of stand(s):

- Mostly Douglas-fir, western larch and ponderosa pine with grand fir, and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 80 feet in height, 12 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a low to mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected western larch (*A. larcis*).
- Grand fir and Douglas-fir dominate the understory and is poor to medium stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of ponderosa pine.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- These units would be treated with a modified shelterwood prescriptions leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be ground based harvested with conventional, mechanical, or cut-to-length operations on dry, frozen or snow-covered ground.
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Numbers: 30-6, 30-7 **Location:** T22N R26W S30 **Acres:** 71

Elevation: 3840ft – 4360ft **Slope:** 25%-55% **Aspects:** N-E-SE

Habitat type: ABGR/LIBO-LIBO, ABGR/LIBO-XETE, PSME/SYAL-CARU

Soils:

Mitten Gravelly Ashy Silt Loam……77%
Courville Gravelly Ashy Silt Loam……13%
Tevis Gravelly Loam……..10%

Description of stand(s):

- Mostly Douglas-fir and western larch with ponderosa pine, grand fir, and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 80 feet in height, 13 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected western larch (*A. larcis*).
- Grand fir and Douglas-fir dominate the understory and is medium to well stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- These units would be treated with a modified shelterwood prescriptions leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be harvested using skyline yarder.
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Number: 30-8 **Location:** T22N R26W S30 **Acres:** 10

Elevation: 4280ft – 4400ft **Slope:** 20%-45% **Aspects:** SE-S

Habitat type: PSME/SYAL-CARU, ABGR/LIBO-XETE

Soils:

Tevis Gravelly Loam……100%

Description of stand(s):

- Mostly Douglas-fir and ponderosa with western larch and grand fir present.
- The stands are multistoried and well stocked. The saw timber component averaged 80 feet in height, 13 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a low to mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected western larch (*A. larcis*).
- Douglas-fir dominates the understory and is poorly stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of ponderosa pine.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- This unit would be treated with a modified shelterwood prescriptions leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Unit would be harvested using skyline yarder
- This unit would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Name: Smiley Face Timber Sale Date: August 2022

Unit Numbers: 32-1, 32-2, 32-3, 32-4, 32-5 **Location:** T22N R26W S32 **Acres:** 118

Elevation: 3800ft – 4520ft **Slope:** 15%-45% **Aspects:** W-N-E

Habitat type: ABGR/CLUN, ABGR/LIBO-XETE, THPL/CLUN-CLUN

Soils:

Mitten Gravelly Ashy Silt Loam……52%
Tevis Gravelly Loam……..42%
Courville Gravelly Ashy Silt Loam……6%

Description of stand(s):

- Mostly Douglas-fir and western larch with ponderosa pine, grand fir, and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 85 feet in height, 12 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.
- Grand fir dominates the understory and is medium to well stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- These units would be treated with a modified shelterwood prescriptions leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be ground based harvested with conventional, mechanical, or cut-to-length operations on dry, frozen or snow-covered ground.
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Number: 32-6 **Location:** T22N R26W S32 **Acres:** 54

Elevation: 4160ft – 4400ft **Slope:** 5%-35% **Aspects:** S-W-N

Habitat type: ABGR/LIBO-XETE, THPL/CLUN-CLUN

Soils:

Tevis Gravelly Loam……..63%
Rumblecreek Gravelly Loam……..28%
Loneman Ashy Silt Loam……9%

Description of stand(s):

- Mostly Douglas-fir and western larch with ponderosa pine, grand fir, western red cedar and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 80 feet in height, 12 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.
- Grand fir dominates the understory and is poor to medium stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- This unit would be treated with a seed tree prescription leaving 5-10 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Unit would be ground based harvested with conventional, mechanical, or cut-to-length operations on dry, frozen or snow-covered ground.
- This unit would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Numbers: 32-7, 32-8, 32-9, 32-10, 32-13 **Location:** T22N R26W S32 **Acres:** 115

Elevation: 3800ft – 4360ft **Slope:** 25%-55% **Aspects:** W-N-E

Habitat type: ABGR/LIBO-XETE, THPL/CLUN-CLUN

Soils:

Mitten Gravelly Ashy Silt Loam……69%
Tevis Gravelly Loam……..29%
Courville Gravelly Ashy Silt Loam……..2%

Description of stand(s):

- Mostly Douglas-fir and western larch with ponderosa pine, grand fir, western red cedar and lodgepole pine present. The stands are multistoried and well stocked. The saw timber component averaged 85 feet in height, 13 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.
- Grand fir, Douglas-fir and lodgepole pine dominate the understory and is medium to well stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- These units would be treated with a modified shelterwood prescriptions leaving 10-30 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be harvested using skyline yarder
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.

Unit Numbers: 32-11, 32-12 **Location:** T22N R26W S32 **Acres:** 33

Elevation: 4040ft – 4240ft **Slope:** 25%-45% **Aspects:** N-E-S

Habitat type: ABGR/LIBO-LIBO, PSME/SYAL-SYAL, THPL/CLUN-CLUN

Soils:

Tevis Gravelly Loam……..67%
Mitten Gravelly Ashy Silt Loam……33%

Description of stand(s):

- Mostly Douglas-fir and western larch with ponderosa pine, grand fir, and lodgepole pine present.
- The stands are multistoried and well stocked. The saw timber component averaged 70 feet in height, 12 inches in diameter and averages approximately 150-199 years of age.
- The stands historically have a low to mixed fire regime.
- The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.
- Grand fir and Douglas-fir dominate the understory and is medium stocked.

Treatment Objectives:

- Move the stands toward the desired future conditions of western larch/Douglas-fir.
- Remove unhealthy, diseased and insect infested trees, as well as those with poor vigor, from the overstory to promote long-term forest health.
- Create a disturbance to promote natural ponderosa pine and western larch regeneration.
- Retain logging slash for woody debris recruitment and nutrient cycling of foliage and fine fuels to maintain site productivity.

Prescribed Treatment:

- These units would be treated with a seed tree prescription leaving 5-10 tpa. Ponderosa pine, western larch and Douglas-fir with good crown ratio and insect/disease free would be left. Two snags and two snag recruits per acre would also be left.
- Units would be harvested using skyline yarder.
- These units would be evaluated post-harvest to determine if piling and scarification is required to get natural regeneration of western larch and ponderosa pine. Monitor success of natural regeneration and plant seedlings if necessary.
- Pre-commercial thinning needs would be evaluated post-harvest. If needed, stands would be thinned to release existing regeneration.